



## FLEXIBLE CORRUGATED MULTILAYER METAL FOIL SHIELDS AND METHOD OF MAKING

### Field of the Invention

This invention relates to multilayer metal foil and metal sheet structures which have utility as heat shields and as acoustic shields.

### 5 Background of the Invention

Multilayer metal foil insulation has been used for many years, as illustrated by U.S. Patent No. 1,934,174. Such metal foil insulation has typically been used in high temperature applications for reflective heat insulation. In those applications, the layers of metal foils are embossed to  
10 provide separation between the layers, and the stack of layers are protected in a container or rigid cover to prevent the stack of metal foils from becoming compressed at any portion, which would decrease the heat insulation value of the stack.

U.S. Patent No. 5,011,743, discloses that multilayer metal foil  
15 insulation can provide enhanced performance as a heat shield when a portion of the multilayer metal foil is compressed to provide a heat sink area through which heat is collected from the insulating portions of the stack and dissipated from the heat shield. Such multilayer metal foil heat shields are formed from a stack of embossed metal foil layers by compressing portions of the stack to  
20 create the desired heat sink areas. The layers are attached to each other or stapled together to prevent the layers from separating. The heat shields and acoustic shields formed according to the disclosure of the U.S. Patent 5,011,743 are typically compressed in the heat sink areas and cut to a desired pattern. Such multilayer metal foil heat shields do not normally have sufficient